IN THE CLAIMS

1-23. (Cancelled)

24. (Currently amended) A method of producing a cladding tube for nuclear fuel for a nuclear pressure water reactor, which method comprises the following steps:

formation of a tube which at least principally consists of a cylindrical tube component of a Zr-based alloy, where the alloying element, except for Zr, which has the highest content in the alloy is Nb, wherein the Nb content in weight percent is between about 0.5 and about 2.4 and wherein no alloying element, except for Zr and Nb, in said alloy, has a content which exceeds about [[0.3]] 0.2 weight percent, and finally annealed the cladding tube at a temperature and during a time such that said tube component is partly recrystallized but not completely recrystallized, and wherein said final anneal is carried out such that the degree of recrystallization in said tube component is higher than ~~about 5%~~ about 40% and lower than about 95%.

25. (Previously presented) A method according to claim 24, wherein between said formation step and said final annealing step, said method includes the steps of rolling and heat treating said cladding tube.

26. (Cancelled)

27. (Previously presented) A method according to claim 24, wherein the final anneal is carried out at a temperature which is lower than 550°C.

28. (Previously presented) A method according to claim 24, wherein the final anneal is carried out at a temperature which is between about 400°C and about 540°C.

29. (Previously presented) A method according to claim 24, wherein the final anneal is carried out during about 1h to about 6h.

30. (Previously presented) A method according to claim 24, wherein before said final anneal, the method comprises the following steps:

forming a bar of said Zr-based alloy;

heating the bar to between about 900°C and about 1300°C and then quenching the bar;

extruding a billet from the bar after heating to between about 500°C and about 900°C; and

cold rolling the billet into a tube in at least two steps, with heat treatments between them at between about 550°C and about 650°C.

31. (Previously presented) A method according to claim 24, wherein the Nb content in said alloy is between about 0.8 weight percent and about 1.2 weight percent.

32. (Previously presented) A method according to claim 24, wherein said alloy contains between about 800ppm and about 1700ppm O.

33. (Previously presented) A method according claim 24, wherein said alloy contains between about 50ppm and about 600ppm Fe.

34. (Previously presented) A method according claim 24, wherein said alloy in addition to Zr contains about 0.8 weight percent to about 1.2 weight percent Nb, about 50ppm to about 600ppm Fe, about 800ppm to about 1700ppm O, less than about 250ppm C, less than about 150ppm Si, less than about 1000ppm S and in addition to that only impurities of a content which does not exceed that which is normally accepted in Zr or Zr alloys for applications in nuclear reactors.

35. (Currently amended) A cladding tube for nuclear fuel for a nuclear pressure water reactor, comprising a generally cylindrical tube component of a Zr-based alloy, wherein the alloying element, except for Zr, having the highest content in the alloy is Nb, wherein the Nb content in weight percent is between about 0.5 and about 2.4 and wherein no alloying element, except for Zr and Nb, in said alloy, has a content which exceeds about [[0.3]] 0.2 weight percent, wherein said tube component has been finally annealed such that it has a structure that is partly recrystallized but not completely recrystallized and wherein the degree of recrystallization in said tube component is higher than ~~about 5%~~ about 40% and lower than about 95%.

36. (Cancelled)

37. (Previously presented) A cladding tube according to claim 35, wherein the Nb content in said alloy is between about 0.8 weight percent and about 1.2 weight percent.

38. (Previously presented) A cladding tube according to claim 35, wherein said alloy contains between about 800ppm and about 1700ppm O.

39. (Previously presented) A cladding tube according to claim 35, wherein said alloy contains between about 50ppm and about 600ppm Fe.

40. (Previously presented) A cladding tube according to claim 35, wherein said alloy in addition to Zr contains about 0.8 weight percent to about 1.2 weight percent Nb, about 50ppm to about 600ppm Fe, about 800ppm to about 1700ppm O, less than about 250ppm C, less than about 150ppm Si, less than about 1000ppm S and in addition to that only impurities of a content which does not exceed that which is normally accepted in Zr or Zr alloys for applications in nuclear reactors.

41. (Currently amended) A fuel assembly for a nuclear pressure water reactor, comprising:

a plurality of cladding tubes, each having a generally cylindrical tube component of a Zr-based alloy, wherein the alloying element, except for Zr, having the highest content in the alloy is Nb, wherein the Nb content in weight percent is between about 0.5 and about 2.4 and wherein no alloying element, except for Zr and Nb, in said alloy, has a content which exceeds about [[0.3]] 0.2 weight percent, wherein said tube component has been finally annealed such that it has a structure that is partly recrystallized but not completely recrystallized and wherein the degree of recrystallization in said tube component is higher than ~~about 5%~~ about 40% and lower than about 95%, and wherein each of said cladding tubes is filled with nuclear fuel suitable for such cladding tubes for a nuclear pressure water reactor.

42. (Previously presented) A fuel assembly according to claim 41, comprising:

a top plate,

a bottom plate,

a plurality of guide tubes for control rods, which guide tubes extend between the top plate and the bottom plate, and

a plurality of spacers arranged for maintaining said cladding tubes in position in the fuel assembly and at suitable distances from each other.